

kreutzer.ST25.txt
SEQUENCE LISTING

<110> Kreutzer, Caroline
Hans, Stephan
Rieping, Mechthild
Mockel, Bettina
Pfefferle, Walter
Eggeling, Lothar
Sahm, Hermann
Patek, Miroslav

<120> L-Lysine-Producing Corynebacterium and Process for the Preparation
of L-Lysine

<130> 21123/278409

<140> 09/801,321

<141> 2001-03-08

<160> 16

<170> PatentIn version 3.0

<210> 1

<211> 795

<212> DNA

<213> Corynebacterium glutamicum

<220>

<221> misc_feature

<222> (1)..(795)

<223> DNA upstream of dapB

<220>

<221> -35_signal

<222> (774)..(779)

<400> 1
ctgcagcaat gagaccgagt aatttcgggg ttgaccagat acaccaatga gaacttggga

60

kreutzer.ST25.txt

acgggcttca aaaatactgg tgaagttgat gtcttcaaca atgcctgcac caggatatga	120
tccggtatcg atacctggaa cgacaacctg atcaggatat ccagtgcctt gaatattgac	180
gttgaggaag gaatcaccag ccatctcaac tggaagacct gacgcctgct gaattggatc	240
agtggcccaa tcgaccacc aaccaggttg gccattaccg gcgatatcaa aaacaactcg	300
tgtgaacgtt tcgtgctcgg caacgcggat gccagcgatc gacatatcgg agtcaccaac	360
ttgagcctgc tgcttctgat ccatcgacgg ggaacccaac ggcggaag cagtggggga	420
aggggggagt ttggtgact ctgaaccgag tgggtctctga agtggtaggc gacggggcag	480
ctatctgaag gcgtgcgagt tgtggtgacc gggttagcgg tttcagtttc tgtcacaact	540
ggagcaggac tagcagaggt ttagggcgtt gagccgctt catcacaagc acttaaaagt	600
aaagaggcgg aaaccacaag cgccaaggaa ctactgcgga acgggcggtg aagggaact	660
taagtctcat atttcaaaca tagttccacc tgtgtgatta atccctagaa cggaacaaac	720
tgatgaacaa tcgttaacaa cacagaccaa aacggtcagt taggtatgga tatcagcacc	780
ttctgaacgg gtacg	795

<210> 2

<211> 1815

<212> DNA

<213> Corynebacterium glutamicum

<220>

<221> -35_signal

<222> (774)..(779)

<220>

<221> -10_signal

<222> (798)..(803)

<220>

<221> CDS

<222> (851)..(1594)

<400> 2

ctgcagcaat gagaccgagt aatttcgggg ttgaccagat acaccaatga gaacttgga	60
acgggcttca aaaatactgg tgaagttgat gtcttcaaca atgcctgcac caggatatga	120
tccggtatcg atacctggaa cgacaacctg atcaggatat ccagtgcctt gaatattgac	180
gttgaggaag gaatcaccag ccatctcaac tggaagacct gacgcctgct gaattggatc	240

kreutzer.ST25.txt

agtggcccaa tcgaccacc aaccaggttg gccattaccg gcgatatcaa aaacaactcg	300
tgtgaacggt tcgtgctcgg caacgcggat gccagcgatc gacatatcgg agtcaccaac	360
ttgagcctgc tgcttctgat ccatcgacgg ggaacccaac ggcggaag cagtggggga	420
aggggggagt ttggtgact ctgaaccgag tgggtcttga agtggtaggc gacggggcag	480
ctatctgaag gcgtgcgagt tgtggtgacc gggtagcgg tttcagtttc tgtcacaact	540
ggagcaggac tagcagaggt ttaggcgtt gagccgcttc catcacaagc acttaaaagt	600
aaagaggcgg aaaccacaag cgccaaggaa ctactgcgga acgggcggtg aagggaact	660
taagtctcat atttcaaaca tagttccacc tgtgtgatta atccctagaa cggaacaaac	720
tgatgaacaa tcgttaacaa cacagaccaa aacggtcagt taggtatgga tatcagcacc	780
ttctgaacgg gtacgtctag actggtgggc gtttgaaaaa ctcttcgccc cacgaaaatg	840
aaggagcata atg gga atc aag gtt ggc gtt ctc gga gcc aaa ggc cgt Met Gly Ile Lys Val Gly Val Leu Gly Ala Lys Gly Arg 1 5 10	889
ggt ggt caa act att gtg gca gca gtc aat gag tcc gac gat ctg gag Val Gly Gln Thr Ile Val Ala Ala Val Asn Glu Ser Asp Asp Leu Glu 15 20 25	937
ctt gtt gca gag atc ggc gtc gac gat gat ttg agc ctt ctg gta gac Leu Val Ala Glu Ile Gly Val Asp Asp Asp Leu Ser Leu Leu Val Asp 30 35 40 45	985
aac ggc gct gaa gtt gtc gtt gac ttc acc act cct aac gct gtg atg Asn Gly Ala Glu Val Val Val Asp Phe Thr Thr Pro Asn Ala Val Met 50 55 60	1033
ggc aac ctg gag ttc tgc atc aac aac ggc att tct gcg gtt gtt gga Gly Asn Leu Glu Phe Cys Ile Asn Asn Gly Ile Ser Ala Val Val Gly 65 70 75	1081
acc acg ggc ttc gat gat gct cgt ttg gag cag gtt cgc gac tgg ctt Thr Thr Gly Phe Asp Asp Ala Arg Leu Glu Gln Val Arg Asp Trp Leu 80 85 90	1129
gaa gga aaa gac aat gtc ggt gtt ctg atc gca cct aac ttt gct atc Glu Gly Lys Asp Asn Val Gly Val Leu Ile Ala Pro Asn Phe Ala Ile 95 100 105	1177
tct gcg gtg ttg acc atg gtc ttt tcc aag cag gct gcc cgc ttc ttc Ser Ala Val Leu Thr Met Val Phe Ser Lys Gln Ala Ala Arg Phe Phe 110 115 120 125	1225
gaa tca gct gaa gtt att gag ctg cac cac ccc aac aag ctg gat gca Glu Ser Ala Glu Val Ile Glu Leu His His Pro Asn Lys Leu Asp Ala 130 135 140	1273
cct tca ggc acc gcg atc cac act gct cag ggc att gct gcg gca cgc Pro Ser Gly Thr Ala Ile His Thr Ala Gln Gly Ile Ala Ala Arg 145 150 155	1321

kreutzer.ST25.txt

```

aaa gaa gca ggc atg gac gca cag cca gat gcg acc gag gca ctt 1369
Lys Glu Ala Gly Met Asp Ala Gln Pro Asp Ala Thr Glu Gln Ala Leu
160 165 170

gag ggt tcc cgt ggc gca agc gta gat gga atc ccg gtt cat gca gtc 1417
Glu Gly Ser Arg Gly Ala Ser Val Asp Gly Ile Pro Val His Ala Val
175 180 185

cgc atg tcc ggc atg gtt gct cac gag caa gtt atc ttt ggc acc cag 1465
Arg Met Ser Gly Met Val Ala His Glu Gln Val Ile Phe Gly Thr Gln
190 195 200 205

ggt cag acc ttg acc atc aag cag gac tcc tat gat cgc aac tca ttt 1513
Gly Gln Thr Leu Thr Ile Lys Gln Asp Ser Tyr Asp Arg Asn Ser Phe
210 215 220

gca cca ggt gtc ttg gtg ggt gtg cgc aac att gca cag cac cca ggc 1561
Ala Pro Gly Val Leu Val Gly Val Arg Asn Ile Ala Gln His Pro Gly
225 230 235

cta gtc gta gga ctt gag cat tac cta ggc ctg taaaggctca tttcagcagc 1614
Leu Val Val Gly Leu Glu His Tyr Leu Gly Leu
240 245

gggtggaatt ttttaaaagg agcgttttaa ggctgtggcc gaacaagtta aattgagcgt 1674
ggagttgata gcgtgcagtt cttttactcc acccgctgat gttgagtggc caactgatgt 1734
tgagggcgcg gaagcactcg tcgagtttgc gggtcgtgcc tgctacgaaa cttttgataa 1794
gccgaaccct cgaactgctt c 1815

```

<210> 3

<211> 248

<212> PRT

<213> Corynebacterium glutamicum

<400> 3

```

Met Gly Ile Lys Val Gly Val Leu Gly Ala Lys Gly Arg Val Gly Gln
1 5 10 15

Thr Ile Val Ala Ala Val Asn Glu Ser Asp Asp Leu Glu Leu Val Ala
20 25 30

Glu Ile Gly Val Asp Asp Asp Leu Ser Leu Leu Val Asp Asn Gly Ala
35 40 45

Glu Val Val Val Asp Phe Thr Thr Pro Asn Ala Val Met Gly Asn Leu
50 55 60

Glu Phe Cys Ile Asn Asn Gly Ile Ser Ala Val Val Gly Thr Thr Gly
65 70 75 80

```

kreutzer.ST25.txt

Phe Asp Asp Ala Arg Leu Glu Gln Val Arg Asp Trp Leu Glu Gly Lys
85 90 95

Asp Asn Val Gly Val Leu Ile Ala Pro Asn Phe Ala Ile Ser Ala Val
100 105 110

Leu Thr Met Val Phe Ser Lys Gln Ala Ala Arg Phe Phe Glu Ser Ala
115 120 125

Glu Val Ile Glu Leu His His Pro Asn Lys Leu Asp Ala Pro Ser Gly
130 135 140

Thr Ala Ile His Thr Ala Gln Gly Ile Ala Ala Ala Arg Lys Glu Ala
145 150 155 160

Gly Met Asp Ala Gln Pro Asp Ala Thr Glu Gln Ala Leu Glu Gly Ser
165 170 175

Arg Gly Ala Ser Val Asp Gly Ile Pro Val His Ala Val Arg Met Ser
180 185 190

Gly Met Val Ala His Glu Gln Val Ile Phe Gly Thr Gln Gly Gln Thr
195 200 205

Leu Thr Ile Lys Gln Asp Ser Tyr Asp Arg Asn Ser Phe Ala Pro Gly
210 215 220

Val Leu Val Gly Val Arg Asn Ile Ala Gln His Pro Gly Leu Val Val
225 230 235 240

Gly Leu Glu His Tyr Leu Gly Leu
245

<210> 4

<211> 79

<212> DNA

<213> Corynebacterium glutamicum

<220>

<221> misc_feature

<222> (1)..(79)

<223> dapA wild type promoter

kreutzer.ST25.txt

<400> 4
 gttagggttt ttgcgggggtt gtttaacccc caaatgaggg aagaaggtaa ccttgaactc 60
 tatgagcaca ggtttaaca 79

<210> 5

<211> 79

<212> DNA

<213> Artificial

<220>

<221> misc_feature

<222> (1)..(79)

<223> dapA promoter of C. glutamicum carrying the MC20 mutation

<220>

<221> mutation

<222> (45)

<400> 5
 gttagggttt ttgcgggggtt gtttaacccc caaatgaggg aagatggtaa ccttgaactc 60
 tatgagcaca ggtttaaca 79

<210> 6

<211> 80

<212> DNA

<213> Artificial

<220>

<221> misc_feature

<222> (1)..(80)

<223> dapA promoter of C. glutamicum carrying the MA16 mutation

<220>

<221> mutation

<222> (35)..(53)

<400> 6
 gttagggttt ttgcgggggtt gtttaacccc caaaatgagg gaagaaggta taattgaact 60
 ctatgagcac aggtttaaca 80

<210> 7

<211> 28

<212> DNA

<213> Artificial

<220>

<221> misc_feature

<222> (1)..(28)

<223> PCR primer

<400> 7

ctcgagagcg gatccgcgct gactcacc

28

<210> 8

<211> 27

<212> DNA

<213> Artificial

<220>

<221> misc_feature

<222> (1)..(27)

<223> PCR primer

<400> 8

ggagagtacg gcggatccac cgtgacc

27

<210> 9

<211> 19

<212> DNA

<213> Artificial

<220>

<221> misc_feature

<222> (1)..(19)

<223> sequencing primer

<400> 9

gaacgccaac cttgattcc

19

<210> 10
<211> 19
<212> DNA
<213> Artificial
<220>
<221> misc_feature
<222> (1)..(19)
<223> sequencing primer

<400> 10
ctttgccgcc gttgggttc

19

<210> 11
<211> 24
<212> DNA
<213> Artificial
<220>
<221> misc_feature
<222> (1)..(24)
<223> PCR primer

<400> 11
aagcttaggt tgtaggcgtt gagc

24

<210> 12
<211> 20
<212> DNA
<213> Artificial
<220>
<221> misc_feature
<222> (1)..(20)
<223> PCR primer

<400> 12
ttaacttggt cggccacagc

20

<210> 13

<211> 36

<212> DNA

<213> Artificial

<220>

<221> misc_feature

<222> (1)..(36)

<223> PCR primer

<400> 13

ccaaagaga gatggaacc ttgaactcta tgagca

36

<210> 14

<211> 40

<212> DNA

<213> Artificial

<220>

<221> misc_feature

<222> (1)..(40)

<223> PCR primer

<400> 14

gtgctcatag agttcaagggt taccatcttc cctcatttgg

40

<210> 15

<211> 39

<212> DNA

<213> Artificial

<220>

<221> misc_feature

<222> (1)..(39)

<223> PCR primer

<400> 15

ccaaagagg gaagaaggta taattgaact ctatgagca

39

<210> 16

kreutzer.ST25.txt

<211> 40

<212> DNA

<213> Artificial

<220>

<221> misc_feature

<222> (1)..(40)

<223> PCR primer

<400> 16

gtgctcatag agttcaatta taccttcttc cctcatttgg

40